WHAT IS CLAIMED IS:

1. A signal transmission apparatus for transmitting a plurality of pieces of encoded audio information encoded by the same encoding method via a digital interface to a signal reception apparatus, wherein each of the plurality of pieces of encoded audio information has a sampling frequency of F or 1/2 × F, the apparatus comprising:

a data generating section for, based on one-frame data obtained by dividing the encoded audio information into frames, generating at least one block; and

a data output section for outputting the at least one block generated by the data generating section to the digital interface,

wherein:

each of the at least one block includes a body portion, and a header portion storing management information for managing data stored in the body portion;

the management information includes synchronization word information indicating a start of the block, and information indicating whether data stored in the body portion is valid;

when the encoded audio information has a sampling frequency of F, the data generating section generates one block for one-frame data of the encoded audio information, stores one-frame data of the encoded audio information in the body portion of the generated block, and stores in the header portion of the generated block the management information including information indicating that data stored in the body portion of the generated block is valid;

when the encoded audio information has a sampling frequency of 1/2 × F, the data generating section generates a pair of blocks including a previous block and a subsequent

block for one-frame data of the encoded audio information, stores one-frame data of the encoded audio information in the body portion of the generated previous block, stores in the header portion of the generated previous block the management information including information indicating that data stored in the body portion of the generated previous block is valid, and stores in the header portion of the generated subsequent block the management information including information indicating that data stored in the body portion of the generated subsequent block is invalid; and

the sizes of the previous block and the subsequent block generated by the data generating section when the encoded audio information has a sampling frequency of 1/2 × F are each equal to the size of the one block generated by the data generating section when the encoded audio information has a sampling frequency of F.

2. A signal transmission apparatus according to claim 1, wherein the information indicating whether data stored in the body portion is valid is side information indicating whether the encoded audio information is stored in the body portion, and when the side information indicates that the encoded audio information is not stored in the body portion, the side information indicates that the data stored in the body portion is invalid.

3. A signal transmission apparatus according to claim 1, wherein the data generating section stores stuffing information in the body portion in the subsequent block.

4. A signal transmission apparatus according to claim 1, wherein:

the management information further includes data type information indicating an encoding method for data stored in the body portion;

the data type information of the previous block is the same as the data type information of the block generated when the encoded audio information has a sampling frequency of F; and

the data type information of the subsequent block indicates an encoding method for data stored in the body portion of the previous block irrespective of an encoding method for data stored in the body portion of the subsequent block.

5. A signal transmission apparatus for transmitting a plurality of pieces of encoded audio information encoded by the same encoding method via a digital interface to a signal reception apparatus, wherein each of the plurality of pieces of encoded audio information has a sampling frequency of F or $1/N \times F$, where N is a natural number greater than or equal to 2, the apparatus comprising:

a data generating section for, based on one-frame data obtained by dividing the encoded audio information into frames, generating at least one block; and

a data output section for outputting the at least one block generated by the data generating section to the digital interface,

wherein:

each of the at least one block includes a body portion, and a header portion storing management information for managing data stored in the body portion;

the management information includes synchronization word information indicating a start of the block, and information indicating whether data stored in

the body portion is valid;

when the encoded audio information has a sampling frequency of F, the data generating section generates one block for one-frame data of the encoded audio information, stores one-frame data of the encoded audio information in the body portion of the generated block, and stores in the header portion of the generated block the management information including information indicating that data stored in the body portion of the generated block is valid;

when the encoded audio information has a sampling frequency of 1/N × F, the data generating section generates a set of N blocks for one-frame data of the encoded audio information, stores one-frame data of the encoded audio information in the body portion of a first block of the N generated blocks to be output first, stores in the header portion of the first block the management information including information indicating that data stored in the body portion of the first block is valid, and stores in the header portion of each block of the N generated blocks other than the first block the management information including information indicating that data stored in the body portion of the each block is invalid; and

the sizes of the N blocks generated by the data generating section when the encoded audio information has a sampling frequency of 1/N × F are each equal to the size of the one block generated by the data generating section when the encoded audio information has a sampling frequency of F.

6. A signal transmission method for transmitting a plurality of pieces of encoded audio information encoded by the same encoding method via a digital interface to a signal reception apparatus, wherein each of the plurality

of pieces of encoded audio information has a sampling frequency of F or 1/2 × F, the method comprising the steps of:

generating at least one block based on one-frame data obtained by dividing the encoded audio information into frames; and

outputting the at least one block generated by the data generating step to the digital interface,

wherein:

each of the at least one block includes a body portion, and a header portion storing management information for managing data stored in the body portion:

the management information includes synchronization word information indicating a start of the block, and information indicating whether data stored in the body portion is valid;

when the encoded audio information has a sampling frequency of F, the data generating step includes the step of generating one block for one-frame data of the encoded audio information, storing one-frame data of the encoded audio information in the body portion of the generated block, and storing in the header portion of the generated block the management information including information indicating that data stored in the body portion of the generated block is valid;

when the encoded audio information has a sampling frequency of 1/2 × F, the data generating step includes the step of generating a pair of blocks including a previous block and a subsequent block for one-frame data of the encoded audio information, stores one-frame data of the encoded audio information in the body portion of the generated previous block, storing in the header portion of the generated previous block the management information

including information indicating that data stored in the body portion of the generated previous block is valid, and storing in the header portion of the generated subsequent block the management information including information indicating that data stored in the body portion of the generated subsequent block is invalid; and

the sizes of the previous block and the subsequent block generated by the data generating step when the encoded audio information has a sampling frequency of 1/2 x F are each equal to the size of the one block generated by the data generating step when the encoded audio information has a sampling frequency of F.

7. A signal transmission method according to claim 6, wherein the information indicating whether data stored in the body portion is valid is side information indicating whether the encoded audio information is stored in the body portion, and when the side information indicates that the encoded audio information is not stored in the body portion, the side information indicates that the data stored in the body portion is invalid.

8. A signal transmission method according to claim 6, wherein the data generating step stores stuffing information in the body portion in the subsequent block.

9. A signal transmission method according to claim 6, wherein:

the management information further includes data type information indicating an encoding method for data stored in the body portion;

the data type information of the previous block is the same as the data type information of the block generated

when the encoded audio information has a sampling frequency of F; and

the data type information of the subsequent block indicates an encoding method for data stored in the body portion of the previous block irrespective of an encoding method for data stored in the body portion of the subsequent block.

10. A signal transmission method for transmitting a plurality of pieces of encoded audio information encoded by the same encoding method via a digital interface to a signal reception apparatus, wherein each of the plurality of pieces of encoded audio information has a sampling frequency of F or $1/N \times F$, where N is a natural number greater than or equal to 2, the method comprising the steps of:

generating at least one block based on one-frame data obtained by dividing the encoded audio information into frames; and

outputting the at least one block generated by the data generating step to the digital interface,

wherein:

each of the at least one block includes a body portion, and a header portion storing management information for managing data stored in the body portion;

the management information includes synchronization word information indicating a start of the block, and information indicating whether data stored in the body portion is valid;

when the encoded audio information has a sampling frequency of F, the data generating step includes the step of generating one block for one-frame data of the encoded audio information, storing one-frame data of the encoded audio information in the body portion of the generated block,

and storing in the header portion of the generated block the management information including information indicating that data stored in the body portion of the generated block is valid;

when the encoded audio information has a sampling frequency of 1/N × F, the data generating step include the step of generating a set of N blocks for one-frame data of the encoded audio information, storing one-frame data of the encoded audio information in the body portion of a first block of the N generated blocks to be output first, storing in the header portion of the first block the management information including information indicating that data stored in the body portion of the first block is valid, and storing in the header portion of each block of the N generated blocks other than the first block the management information including information indicating that data stored in the body portion of the each block is invalid; and

the sizes of the N blocks generated by the data generating step when the encoded audio information has a sampling frequency of 1/N × F are each equal to the size of the one block generated by the data generating section when the encoded audio information has a sampling frequency of F.